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THE BIRDS OF POINT PELEE.

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INTRODUCTION.

The following report is mostly compiled from the notes of the members of the Great Lakes Ornithological Club, a small organization formed for the purpose of co-operation and intensive study of the birds of the Great Lakes Region. At one of the earliest meetings of the club attention was called by W. E. Saunders to the peculiarly interesting phases of Point Pelee avifauna, and the interest of the membership was so aroused that a trip was made there May 13 and 14, 1905, by W. E. Saunders, B. H. Swales and P. A. Taverner. The results were so encouraging that further and more extended trips have been made as business conditions permitted. The following are the fruits of the work to date. Credit must be given to the following members, who have aided the writers to the utmost in their endeavors to present all the data so far accumulated in regard to the birds of this interesting locality.

Dr. William Brodie, who made a collecting trip to the Point in July, 1879, and added some valuable notes in regard to conditions at that early date.

Mr. W. E. Saunders, of London, Ont., who made various trips during and after 1884, and has added several species that do not seem to occur there now or that the rest of us have failed to find, besides many other notes whose value will appear

in the following text. Not the least of our indebtedness to this gentleman arises from the fact that he first introduced us to Point Pelee.

Mr. J. E. Keays, who accompanied the above on many of his early trips and made another rather extended one in the fall of 1901.

Mr. A. B. Klugh, of Kingston, Ont., who accompanied the authors on a two weeks expedition the first of September, 1905, and to whom special credit must be given for all the botanical notes, besides others of more direct ornithological interest.

Mr. J. H. Fleming, who accompanied the writers May 20 and 21, 1906, to the Point and who succeeded in making the rarest record for the locality.

Dr. Lynds Jones, who, stationed on the Islands, co-operated with us on the Point in early September, 1905, and furnished valuable data as to the actions of migrants as they passed over the lake.

And lastly, though not least, to the various residents on the Point whose good will and kindness made our trips, if not possible, at least comfortable; and among these especially to Mr. Albert Gardner, whose information on various birds we have found most reliable and valuable, especially in regard to the water fowl, of which it is most difficult to gather data on short and desultory trips.

That the work is far from complete will be evident from the numerous gaps that exist in the list, that we have so far been unable to fill from actual observation or reliable report. We have allowed consistently the rule of admitting nothing, except absolutely positive evidence, without giving the grounds for our conclusions that the reader can judge their weight for himself. In nearly all cases specimens have been taken or examined by the writers and in all important records the location of the specimen has been definitely determined so that the identifications can be at any time verified. Many of the shortcomings of the list must be charged against the intermittent character of the work done at the Point and that this may be duly allowed for we append the list of visits made

to the locality, by the writer, upon which the bulk of the work rests.

May 13, 1905, W. E. Saunders, B. H. Swales and P. A. Taverner tramped out the east shore, camped in the red cedar belt on the opposite side and beyond the end of the marsh and returned along the west side road the next day.

Sept. 5 to 17, 1905, A. B. Klugh and Taverner formed a camp about the same place as before, from which point they worked all localities of interest carefully. Sept. 8 they were joined by Swales, who remained until the 13th. Camp was broken the 17th.

October 29, 1905, Taverner made a survey of the east shore.

May 20, 1906, J. H. Fleming, Swales and Taverner drove out to the old camping grounds, worked the end of the Point and a bit of the east shore, returning the next day along the road on the west side.

Sept. 1, 1906, Swales and Taverner worked the country around the end of the marsh and towards the end of the Point and returned Sept. 3.

Sept. 15-22, 1906, Saunders, Swales and Taverner camped in the usual place and worked the end of the Point thoroughly and spent considerable time on the marsh and ponds.

Oct. 14, 1906, Swales and Taverner covered the end of the Point, returning the next day along the east beach, working the Lake Pond on the way.

March 9, 1907, the same two put in two days about the end of the Point.

May 31, 1907, Saunders and Taverner tramped out the east beach and camped on the old grounds, worked the end of the Point and the beaches, returning June 1.

PHYSICAL AND ECOLOGICAL DESCRIPTION.

Point Pelee is near the western end of Lake Erie, projecting into those waters some nine miles or so from the northern or Ontario shore. It is the most southern point of the mainland of the Canadian Dominion and offers many features of peculiar interest to the student of ornithological distribution. In shape it resembles a large "V" with concave arms flaring

rapidly at the top where it merges into the general trend of the main shore and attains a width of about six miles. This resemblance to the letter is more than superficial, and a closer examination carries out the likeness farther than is apparent from its outline shape alone. The general aspect is that of two long, low sand-bars meeting at the apex where they are amalgamated for a little over two miles of their length, and from thence stretching out in divergent parabolic lines to the main shore. The triangle so inclosed from the point of juncture back to the mainland is swamp of varying degrees of wetness, some places being quite firm and wadable, but others are quaking bogs that render such a proceeding a ticklish undertaking. In several places the marsh deepens into ponds, some being of considerable size.

The marsh itself is largely composed of the following plants: Cat-tail, *Typha latifolia*; Narrow-leaved Cat-tail, *Typha angustifolia*; Wild Rice, *Zizania aquatica*; Reed Grass, *Phragmites communis*; and Lake Bullrush, *Scirpus lacustris*. Of the ponds, those known as the Lake Pond and the Cove Pond are the principal and largest. These are of no great depth and their bottoms are composed of successive generations of aquatic plants and are soft and treacherous. The Lake Pond contains great masses of Wild Celery, *Valisneria spiralis*, which, with the Wild Rice that grows plentifully and to great size about its shores, offers great inducements to the wild fowl that visit the locality in large numbers during the migrations. German Carp that are said to be common are not nearly as numerous here as at the St. Clair Flats nor have they done the damage that they have at the latter place where the punters claim they have almost entirely exterminated the native Wild Celery.

Across the base of the Point and cutting off a considerable portion of the marsh, a wide ditch has been dug from shore to shore and the material excavated heaped up on the outer side to form a dyke. On the eastern shore a pumping station has been erected and the water is raised from the inner side and thrown out into the lake, thus reclaiming several hundreds of acres of rich swamp land to agricultural use. The debris

taken from the excavation is a stiff blue clay giving an indication of the underlying strata upon which the superficial structure of the Point is built. On top of this clay there are, in places, from two to three feet of solid peat showing in the vertical faces of the cut.

The eastern shore forming the right hand arm of the "V" is very simple in character, being composed of but a single sand-dune, bare of vegetation except for a meager covering of zerophitic plants and a few scattered cottonwoods. Out beyond the end of the marsh where the two arms join, the forest growth of the opposite shore encroaches on the east side until their roots are almost washed by the waves of the lake. The average width of the dune for the greatest part of its length is but a hundred yards and in some places rises to a height of ten feet above the lake, though in others it is so low that, during storms when the wind is in the right direction, the waves wash completely over the slight sand barrier into the marsh beyond. The plant life is typical of such places and is composed of Sand-drop-seed, *Sporobolus cryptandrus*; Knot-weed Spurge, *Euphorbia polygonifolia*; and Tall Worm-wood, *Artemisia caudata*. Several scattered clumps of Cottonwood mentioned before occur on the crest, and patches of Sea Sand-reed, *Ammophila arundinacea*, and Smooth Panic Grass, *Panicum virgatum*.

Just above high water mark the dune rises rather abruptly, especially towards the base of the point, forming a fairly well marked bluff, and then gradually sinks away into the marsh on the other side, upon which it is evidently encroaching; as between the sand and the bog societies there is usually a long narrow strip of clear water where the blowing sand has smothered the aquatic plants without filling the space up to the water level. In fact there is every evidence that this shore is being eroded, and the time is not very far in the future when Point Pelee will be washed bodily away unless present conditions change or man devises some way in which to stay the natural course of events. The older residents say that some forty years ago this shore was nearly three-quarters of a mile wide and clothed with heavy hardwood timber. Even

since our first visit in May, 1905, we can see that the Point has lost considerable land along the shore, nor have we observed that there have been any compensating accumulations made at other points on this side. The fishermen tell us that the bottom, off shore, is composed of mud, and filled with roots and prostrate tree trunks. On the beach every here and there are often found large regular masses of peat that seem to have been torn up from the bottom and washed ashore in the same manner that Prof. E. L. Mosely describes having taken place immediately across the lake on the Ohio shore at Cedar Point.*

The western side shows an entirely different aspect. Near the base, between the marsh and the lake, it is narrow, barely allowing room for running a road along its length, but as it proceeds outward towards the end of the Point it gradually widens until, beyond the marsh, the two sides of the "V" join and give a width of about half a mile. From the base, on the west side to this point, and all beyond is heavily wooded with deciduous and evergreen trees. Black Walnut, *Juglans nigra*, is one of the most conspicuous species of the former and Red Cedar, *Juniperus virginiana*, of the latter. In fact, these two with Juniper *Juniperus communis*, are the species that give the most striking character to the floral aspects of Point Pelee. Here and there a tall White Pine, *Pinus strobus*, towers up among the other growth or, as in one or two cases, unite to form piney groves. The extreme end of the Point is covered with a heavy growth of Red Cedar in clumps filled in between with great beds of Juniper. This growth mixed with Snowberry, *Symphoricarpos racemosus*, continues down the Point in a sharply defined belt between the beach in front and the deciduous woods behind. A few Red Cedars, however, occur scattered through the woods all along the shore, and in the more barren places inland, where also the Western Prickly Pear, *Opuntia rafinesquii*, flourishes. This western shore, moreover, does not seem to be suffering from erosion as is the eastern. In fact it seems

*Proceedings of the Ohio State Academy of Sciences, 1904, p. 212.

to be growing and extending into the lake. The beach is very wide and of a gentle, even slope and the woods behind seem to be extending their ground over its surface as it encroaches on the lake. It is worthy of notice, in this connection, that large masses of driftwood and other debris is cast up on this shore, while the eastern is perfectly clear except for the masses of peat spoken of before. A road runs out the Point just within the shelter of the trees on this side. Between the road and the lake it is still Crown Land, and so, but for the effects of stray cattle and hogs, is nearly in its primeval state. Beyond the road, however, are farm lands wherever there is room between it and the marsh for cultivation. Beyond the marsh and extending towards the point is woodland composed chiefly of Chestnut Oak, *Quercus prinus*; Red Oak, *Quercus rubra*; Black Walnut and Button Wood, *Platanus occidentalis*. In the center of this woodland are extensive fields, both cultivated and waste, some more or less grown up with thickets of Hackberry, *Celtis occidentalis*; White-heart Hickory, *Carya tomentosa*; young Black Walnut, Red Oaks and Chestnut Oaks; Climbing Bittersweet, *Celastrus scandens*; Wild Grape, *Vitis riparia*; Carrion Flower, *Smilax herbacea*, and Prickly Green-briar, *Smilax hispida*.

It will be seen from the foregoing that the Point offers inducements for all classes of birds. There are the hardwood forests, cedar thickets, brushy tangles, high and low waste lands, open fields and marshes of all degrees of wetness for a varied avifauna: nor have the conditions promised more than later results have fulfilled as the accompanying list shows. But, before proceeding, it seems desirable to call attention to phenomena of peculiar interest in regard to the avifaunal and other aspects of the Point biota.

The beaches on either side are perfect, wide and clear and of themselves seeming to offer equal inducements to waders; in fact, what choice there is would seem to be in favor of the western one where materials of food value must be constantly washed up. The contrary, however, is the case. We have seen no waders but Spotted Sandpipers on this beach, though Saunders states that on his earlier trips he saw Black-bellied

Plover there. The neighboring marshes on the east side may be the determining factor or the presence of the ponds that, on the east side, wash the inner line of the shore dune in some places, and are not separated from the beach by a belt of timber as on the west. There are many indications, however, that the preference is largely governed by the migrational routes taken by these migrants in approaching and leaving the Point. Just such a condition of affairs would be exhibited if the waders on the fall migration approached the Point from the east side and so along that shore and leaving at the extremity; reversing the route in spring. Such seems to be the course of the Sharp-shinned Hawk flight and what data we have of the distribution of waders on the north shore of Lake Erie seems to substantiate the theory. Gulls and Tern show a less pronounced preference for the same shore but perching birds, as would be expected, are almost absent from it except at such times as described by the residents during the latter part of May, 1907, when, after prolonged interruption of migrations by unseasonable weather, the sparsely sprinkled Cottonwoods scattered along the eastern shore were alive with tanagers and warblers. At other times we have found but such typical species as Savanna Sparrow, Prairie Horned Larks, Palm Warblers and a few White-crowned Sparrows, and late in the season, Snowflakes and Pipits. Practically the same conditions prevailed during all our visits.

The most interesting feature of the Point ornithologically, however, is the intrusion of Carolinian forms of life. This is backed up and supported by the botany as noted by Mr. A. B. Klugh, who says:

"The floral aspect of Pelee is decidedly Carolinian as is shown by the occurrence of the following plants: Sand Grass, *Triodia purpurea*, Summer Grape, *Vitis aestivalis*, Wiry Panic-grass, *Panicum philadelphicum*, Swamp Rose-mallow, *Hibiscus moscheutos*, Florida Milkweed, *Accrates longifolia*, Button-wood, *Platanus occidentalis*, Black Walnut, *Juglans nigra*, White-heart Hickory, *Carya tomentosa*, Sassifras, *Sassifras officinalis*, and Chestnut Oak, *Quercus prinus*."

How far these conditions, peculiar for Canada, prevail in-

land we are unable to tell. We have found slight Carolinian indications in the bird life along the lake shore as far as Amherstburg to the west. About Leamington, a few miles inland, they are able to raise crops of sugar cane, while tobacco flourishes throughout the region. The Point itself, however, is specially favored by the seasons for, though the spring is some two weeks later than even in the country about Leamington, it more than makes up for that by being absolutely free from late spring frosts, and having almost a month more free from frost in the fall. The results of this are well seen this spring, 1907, when the peach crop on the mainland promised to be almost a total failure, many entire orchards being actually killed, while on the Point itself the trees promise the greatest crop they have ever known. A few such occurrences as this must have a most decided influence upon the biota and explain why so many species are found in but this one locality in the Dominion.

On looking at the map of Lake Erie, Point Pelee, stretching out into the lake, the great arm of Ottawa Co. reaching an equal distance from the opposite Ohio shore, and the islands lying like stepping-stones between seem to constitute a natural migrational highway across the lake. Special attention has been given to this appearance and the results seem to justify our surmises. Dr. Lynds Jones was stationed on the islands during the first of Sept., 1905, and describes the migrational conditions he observed in these words:

"I found the birds migrating practically everywhere along the line of the islands, but the largest and best defined stream was across Pelee Island, with a well marked convergence to its southern point, thence across to Middle, and beyond to Kelly's Island, thence across to Marblehead. Migrating birds were most numerous on Middle Island, but they were in great numbers on Pelee (Island). No birds were seen crossing the lake except in a line with the islands."

This last statement is important for it shows that, though Lake Erie is not very wide at any point, the generality of small migrants prefer an easy passage from island to island to launching directly out and making the crossing

at one flight. We say the "generality" with reason, for some species we have seen crossing directly over, undeflected by the inviting appearance of Pelee Island that lies in full view from the end of the Point and about eight miles and a half away. The birds we have seen so crossing were Duck Hawk, Sharp-shinned Hawk, Sparrow Hawk, Red-winged Blackbird, Bronzed Grackle, Blue Jay, Robin, and Bluebird. We noted all of these species crossing the afternoon of October 14, 1906. On that date this was of more than common interest as it showed migration at a time when such movements are difficult to detect. Ordinarily with individuals coming and going daily there is no appreciable increase or diminution of numbers of a species. Under such conditions it is almost impossible to tell positively whether the bird population is migrating or stationary. But here it is possible to actually see such species start out and feel certain that it is a migration flight and not but a passage to another woods or swale, and accidentally in a southerly direction. From the first of September on, every morning's sunrise sees great flocks of Blackbirds and Bobolinks that have presumably passed the night in the marsh making their way down the Point for the crossing. Through the day it is but an occasional small bunch that passes over, but from sunrise to about eight o'clock they go in an almost steady stream. Sharp-shinned Hawks, on the contrary, seem to wait until they have digested their morning meal before starting out and then seem to cross throughout the day in steady numbers.

There is one species, however, that does seem to take advantage of every resting place along the way, and that is the Ruby-throated Hummingbird. This diminutive little bird showed a strange mixture of bravery and caution. Other birds hesitate more or less before finally leaving the Point and then fly at an elevation of about two hundred feet or more. As they start out from the shelter of the last trees the least thing will turn them back, a man shouting, a gun shot or the sight of a hawk in the far distance. In this manner they may make several false starts before the final one. The Hummingbird, however, comes sailing down the Point over the tops of

the last shrubbery and then dropping down to within a few feet of the sand follows its curves and windings out to its most extreme tip when, squaring away at an angle to its flight of a moment ago, it makes straight for Pelee Island. We saw this many times, nor did they once hesitate or pause from the time when they first hove in sight over the bush tops until they faded away in the field of our glasses over the waters of the lake. Contrary to other species noted, they flew low, and according to Dr. Jones, who saw them from a boat out in the lake, they kept, as much as possible, low in the trough of the seas to escape the wind pressure of higher levels.

In most localities in this region fall birds, even in the height of the migrations, are generally rather hard to find. They cruise along in bunches often of many individuals and species. When such companies are found birds are to be seen all about, but soon the host has passed on and the woods are comparatively deserted until another such company is found. During the height of the fall migrations, the last of August and the first of September at Point Pelee, however, the conditions are much different. The birds are in a flock but one might say that it occupies the whole Point. Sometimes, wherever one turns many individuals are in sight and one is bewildered by their numbers. Then some night we hear the "cheeps" of migrants high in the air and the next morning the multitude will be gone and, with the exception of some few species, birds will be hard to find. Then again, they will gradually increase till they reach their maximum numbers and again vanish. In fact, the whole history of the fall migrations at the Point seems to be a series of gradual augmentations and sudden diminutions of bird life, as though the migrants continue to arrive until certain conditions have been fulfilled or a degree of saturation of bird life had arrived and then all leave in a body. About one-third of the way from the Point to Pelee Island, but some miles to the east of the direct line, there used to be a light-house that is now deserted. It was kept by a man by the name of Grubb, who told us that at times great numbers of birds used to become dazzled by the glare of the light, and striking the glass of the

lantern fell struggling to the stage below. Many of these were killed outright, but he says that sometimes he would gather up the stunned ones and carry them inside and has had more than a hundred flying about his small quarters at a time.

As far as we can see, the night departures of birds in the fall are made almost independent of the weather. Several times we congratulated ourselves that the night was too bad for birds to leave the Point and cross the troubled waters of the lake and that the next day we would have a chance to see some rare species again only, when morning dawned, to find that we were to be disappointed and where birds were abundant the day before they were scarce then. This latter fact is easily explainable on considering the short flights from island to island and the number of havens of rest offered should the weather prove too unpropitious.

Usually, companies of migrating birds seem to be moving in given and definite directions and one acquainted with the ground can often locate a group again after it has once passed. On Point Pelee, however, they seem to move erratically about, sometimes traveling up and sometimes down the Point. They seem to have reached the end of their land journey and have nothing to do but kill time until they are ready to take up their next stage across the water.

These facts stand out plainly in our work on Point Pelee: the evident "wave" form of the migrations, the great congestion of bird life during migrations, their erratic wandering while on the Point in the fall and their departure, as far as we could see, regardless of weather.

All these facts point to the conclusion that here is the contraction and consequent condensation of a great migration route and the congestion of bird life in spring and a few days in the fall suggests the great area of territory to the north that must be supplied in the spring and drained in the fall of its birds by this stream. The occurrence of so many rarities within a small locality is also interesting and suggestive, showing how such wandering waifs "follow the crowd" and progress along routes unknown to their ancestors and along these highways sometimes establish permanent homes in new

territory, as in the cases of such intrusive forms as Cardinal, Yellow-breasted Chat and Carolina Wren that have formed permanent settlement here. In studying out the problems presented it is well to bear in mind the fact that Prof. E. L. Mosely seems to have conclusively proved that within almost historical times there was land connection broken but by marshes and streams of comparatively narrow width between the Ohio and Canadian shores.

Taken all together, the bird life of Point Pelee, the islands adjoining and the opposite American shore forms a subject of absorbing interest and ground where migrational phenomena of the Great Lakes can perhaps be studied to better advantage than anywhere else in this section. There are many such problems that seem to have a glimmer of light thrown on them from work done here and should results warrant they will form the grounds of subsequent papers. As a basis for such future work and as a matter of present record the following list is put forth by the authors:

A LIST OF THE BIRDS OF POINT PELEE.

1. *Colymbus auritus*.—Horned Grebe.

Without doubt a regular spring and fall migrant as at Detroit, Mich. Two seen on the Lake Pond, October 15, 1906, and listed by Harry Gould (Ottawa Naturalist, Vol. XV, 1901, p. 16), September 19, 1900.

2. * *Podilymbus podiceps*.—Pied-billed Grebe.

A common migrant and undoubtedly a regular breeder in considerable numbers. We have not observed it as yet in the spring during our May visits, but at these times little marsh work was done and they could easily have been overlooked. The species increases in abundance from early September and are common by the middle of the month on the ponds, though we have yet to see it on the Lake. They were very common during October, 1906, and appear to remain until driven out by the formation of the ice. In 1905 there were still numbers to be seen October 29.

3. * *Gavia imber*.—Loon.

Mr. Saunders found a nest during the first week in June, 1884, near the west side of one of the ponds and remarks, "They were then

* Species so marked have either been taken by the writers or specimens have been examined by them personally.

known to breed there annually." This species seems to have suffered the same fate here as it has in the adjoining localities, and from a common breeder has been reduced to the position of a regular migrant, becoming rarer before the encroachments of civilization. We have observed single birds at Pelee at various times and the fishermen inform us that at times they take considerable numbers in their nets. The only places where the loon seems to breed in the adjoining country is on the little isolated lakes of the interior, such as those of Oakland county, Michigan, where but a pair or so still manage to perform the duties of nidification.

4. * *Larus argentatus*.—Herring Gull.

We have found the Herring Gull a common species during all our visits, even as late as May 22 (1906), and as early as September 1 (1905-06). At times of high wind they frequent the surf at the end of the Point. At other times they can generally be found on the stakes of the pound nets that stretch for some distance out into the lake on both sides of the Point. September 13, 1905, we were presented by some fishermen with a very wet and bedraggled Sharp-shinned Hawk (*Accipiter velox*) that they had picked up out of the lake where it had been buffeted by the Herring Gulls, and would certainly have been drowned if it had not been rescued for another fate. It seems almost incredible that a bird as large as this gull should have any cause to fear this small *Accipiter*, but there must be some basis in past experience to form such an antipathy as this case shows. From our experience at the western end of Lake Erie and the Detroit River we regard the species as common throughout the winter as long as there is open water.

5. *Larus philadelphia*.—Bonaparte's Gull.

Without doubt a common and regular migrant. We have noted it on all spring visits as late as June 1, 1907. We have not seen it in September, but found it present October 14, 1906, and October 29, 1905. A few immatures may remain during the summer.

6. *Sterna caspia*.—Caspian Tern.

Noted by Saunders on the east shore late in August, 1882. We saw four flying up and down the same shore May 13, 1905, in company with Common Tern; and September 8, 1905, Mr. Swales saw two adults flying just out of gun range near the end of the Point. (Auk, XXIV, 1907, p. 137.)

7. * *Sterna hirundo*.—Common Tern.

An abundant migrant and observed commonly on nearly all visits and as late as September 20, 1906, though none have been seen in October. Breeds in great numbers on the Hen and Chicken Islands directly south in Lake Erie.

8. **Hydrochelidon nigra sarinamensis*.—Black Tern.

A common summer resident and breeder. Sets of eggs were taken by Saunders in 1884 and they were evidently nesting or preparing to do so May 31, 1907. September 12, 1905, is our latest fall date when we witnessed an interesting migration of the species. Early in the morning a large number were observed passing southward along the east beach. Many paused on their way, alighting on the net stakes about half a mile out in the lake until every stake was covered. Nearly all were immatures. By noon all had passed.

9. **Phalacrocorax dilophus*.—Double-crested Cormorant.

March 10, 1907, we discovered the remains of a specimen of this species on the eastern shore that we were informed had been killed the previous fall. The head was preserved for record.

10. *Merganser americanus*.—American Merganser.

Undoubtedly both Mergansers occur regularly on the waters adjacent to the Point, though we have not noted them personally. This is the species the gunners seem the better acquainted with and they report it as common during migrations and through mild winters.

11. **Lophodytes cucullatus*.—Hooded Merganser.

Reported by the gunners as a common migrant. A fine male sent us taken November 13, 1906.

12. **Anas boschas*.—Mallard.

Without doubt a common migrant and a common though limited breeder, as reported by the gunners. Birds seen and taken September 1, 1906, were likely raised on the marsh. Locally all females are known as Grey Ducks by the gunners, who regard them as of a different species. This confusion is likely caused by the taking of males in the "eclipse" plumage when for a short time during the summer moult it assumes the general plumage of the female.

13. **Anas obscura*.—Black Duck.

A. obscura is a more abundant species than *boschas* and is reported by the gunners as a common breeder. Saunders saw a pair waddling about the marshes June 3, 1884, and May 30, 1907, he and Taverner noted ducks in singles and flocks over the marshes to the number of twenty or more that we took to be of this species. In all probability late migrants will be found to be the form *rubripes*, though so far we have been unable to examine specimens from there later than October 15 (1906).

14. *Chauleasmus streperus*.—Gadwall.

Gardner seems to know this duck, though he says it is not common. Though it likely occurs rarely, until specimens are secured its status must remain hypothetical.

15. **Nettion carolinensis*.—Green-winged Teal.

Undoubtedly small numbers are of regular occurrence during mi-

grations. We secured a pair taken October 25, 1906. This species has diminished in numbers of late years throughout this section.

16. *Querquedula discors*.—Blue-winged Teal.

A common migrant, coming early in fall and remaining late in spring. A few may remain to breed as the residents report. Noted a couple in the dyke ditch May 21, 1906, and May 31, 1907. Gardner reported that a few were seen a day or so before on the marsh. Common from September 1 to October 15, 1906, when we left. This species does not seem to be diminishing at this end of Lake Erie as reported by Fleming for Lake Ontario. (Auk XXIII, 1906, p. 444.)

17. *Mareca americana*.—Baldpate.

Reported a fairly common bird during migrations.

18. **Dafila acuta*.—Pintail.

A regular and fairly common migrant. Have seen it between the dates of September 13, 1906, and November 7, 1906.

19. **Anas sponsa*.—Wood Duck.

This rapidly disappearing species seems to be still far from uncommon on the Point. We saw numbers both dead and alive all through September 1905-1906, and Gardner reports taking one November 1 of the latter year. He also captured a winged bird on the marsh December 17. According to the shooters they breed in considerable numbers, though they are most common in spring. This spring (1907) Gardner reports a falling off in numbers. He is perfectly familiar with their breeding habits, and when we asked him as to how the female got her young to the ground from the nest he said that he had several times seen her take the young out of the nest in her bill and deposit them one by one at the bottom of the tree where they crouched motionless while she returned for the next. When all are down, with the old one in the lead, they make straight for the nearest water. He says that the greatest enemies that the young birds have after they leave the nest are the Snapping-turtles and large Pike that infest the marshes.

20. **Aythya americana*.—Redhead.

A very common migrant on the ponds, where it feeds on the mass of Wild Celery (*Vallisneria spiralis*) growing there. Saunders observed them as late as May 31, 1884. In 1906, the first seen by Gardner was October 9, though the year before we took one on the Lake Pond September 9, but as it was an injured bird the date is of no migrational importance. October 15, 1906, we saw large rafts of them in the center of the Lake Pond and the last were reported from the Point December 1.

21. **Aythya callisneria*.—Canvas-back.

Not as common as *A. americana*, but of regular occurrence. Gardner reported a number October 13, 1906, and November 16 sent us a specimen.

22. **Aythya marila*.—Scaup Duck.

A common migrant. Reported by Gardner August 31, 1906. We saw a number September 1. Received several specimens from the Point in November the same year. Reported common December 1. We saw them as late as May 13, 1905, and heard of the presence of "Bluebills" May 29, 1907. This species is locally known as "Lake Bluebills" by the shooters.

23. **Aythya affinis*.—Lesser Scaup Duck.

A common migrant, locally called "Marsh Bluebill." We had specimens sent us November 7, 1906, and it was reported December 1. A few remain all summer, but they are likely cripples or unmated birds.

24. **Aythya collaris*.—Ring-necked Duck.

Gardner states that this duck occurs in limited numbers especially in spring. He sent us a male taken November 16, 1906. (Auk, XXIV, 1907, p. 139.)

25. *Clangula clangula americana*.—American Golden-eye.

Reported to be a common migrant. We saw a male bird May 13, 1905, and it was reported by Gardner September 13, 1906.

26. **Charitonella albeola*.—Buffle-head.

A common migrant. We saw none during our October visits, but had a number sent us November 7 and 16, 1906. Gardner reported about twenty December 1 the same year.

27. *Harelda hycmalis*.—Old Squaw.

A bed of about fifty lay out in the lake near the nest stakes May 13, 1905. Mr. Grubb said that they had been there for several weeks. A number remain during open winters. Locally termed "Coween," "South-southerlies" and "Sou-easterlies."

28. **Erismalura jamaicensis*.—Ruddy Duck.

Observed on the ponds by Saunders June 10, 1884. We secured a crippled bird on the Lake Pond September 12, 1905, but regarded it as a "left-over" from the previous migration. Gardner reported a number October 13, 1906, and about fifty December 1. He sent us a female November 7.

29. **Chen hyperborca*.—Lesser Snow Goose.

An immature bird was shot near the base of the Point October 17, 1905, by Sidney Stanlick, of Leamington, and secured by Taverner. It was very poor and an injured foot bespoke a recent injury. (See Auk, XXIII, 1906, p. 219.)

Gardner reports that in November, 1906, after the marsh had frozen over there were eight white geese seen in the fields at the base of the Point, but they were harried so at long range that they became so wild that no one succeeded in taking any of them. They doubtless belonged to this species.

30. * *Branta canadensis*.—Canada Goose.

A common migrant, perhaps more abundant in spring. They sometimes frequent the ponds, but are usually found feeding on the cultivated fields inside the dyke at the base of the Point. Observed October 28, 1905, and October 11 and 12, 1906.

31. * *Olor columbianus*.—Whistling Swan.

Gardner reports Swans as occurring irregularly in spring. Usually they remain well out in the lake, but sometimes during heavy weather they venture in on the ponds. It is less common in fall. We have seen mounted specimens of this species in Leanington and as *columbianus* is the common form in this section, list it under this head, though *buccinator* may occur.

SPRING MIGRATION ANOMALIES IN 1907

AS OBSERVED BY O. WIDMANN AT ST. LOUIS, MO.

The abnormal weather of the spring of 1907 caused unprecedented deviations of migration dates from the standard set up during thirty years of observation. A series of ten hot summer days in the latter part of March pushed vegetation to a state of development never seen before at that time, opening the buds of leaves and flowers not opened in other years before the latter part of April. Just as these tender growths were exposed, and before they had time to strengthen, a freeze followed in early April, killing them. All through April the temperature remained so low that almost no advance at all was made in plant growth, and this perfect, most remarkable, standstill lasted till early May and even then progress was exceedingly slow. Hickories did not leaf before the second week of May and Sycamores, whose first leaves have been killed, were still without leaves at the end of May and are even now (June 6) very thinly clothed.

That this retardation of plant growth had more to do with the delay of migration than the low temperature itself seems probable. Insectivorous birds seem to be influenced more by the condition of vegetation than the weather, especially those which find their principal food in the small larvæ infesting